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| 10/670,722 | 09/25/2003 | Akira Kume | S004-5129 | 6772 |

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| EXAMINER |
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MULLER, BRYAN R

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| ART UNIT | PAPER NUMBER |
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3723

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,722

Applicant(s)

KUME ET AL.

Examiner

Bryan R. Muller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) 25-27,31-34,38 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-24,28-30,36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 21-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 34, 39 and 40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention I, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/17/2005.

2. Claims 25-27 and 31-33 are further withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/17/2005. Applicant elected species I and stated that claims 21-33 and 35-38 all read on the elected species and that claims 21, 22, 28 and 39 are generic to species I and II. However, claim 39 is not readable on the invention that includes species I and II and is therefore, not generic and has been withdrawn. Also claims 25-27 and 31-33 clearly read on species II that is represented by figures 10-12 because figures 2-6 that represent species I do not show a groove in the jig plate body and the only groove disclosed in the specification relates to figures 10-12. Therefore, claims 25-27 and 31-33 are further withdrawn by the examiner as reading on a non-elected species.

Specification

3. The disclosure is objected to because of the following informalities: The amendment to the specification filed on 2/4/2005 provides a replacement paragraph for the paragraph that begins on line 20 of page 15 of the original specification but replaces the word "housing" with "showing" and reference number "145" with reference number "45" but does not properly present these amendments (by underlining new words/numbers and striking through replaced words/numbers). It is assumed by the examiner that the replacements were not intended to be made so the specification must further be amended to correct these apparent unintentional changes.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 21, 28, 35 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In reference to claim 21 and 28, both claims disclose that the ferrule and optical fiber rotate in a second direction opposite to the first direction of rotation but the specification fails to disclose what causes this rotation to occur or any structure that

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would create such rotation. In reference to claims 35 and 37, it appears that the applicant intends to invoke 35 U.S.C 112, sixth paragraph with the "means for" statement in claims 35 and 37 with the "mounting means". However there is no "mounting means disclosed in the specification to provide the necessary support for 35 U.S.C 112, sixth paragraph.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 21, 28, 35 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In reference to claims 21 and 28, it is unclear how the ferrule and optical fiber rotate in a second direction opposite to the first direction of the rotation. In reference to claims 35 and 37, it is unclear if the applicant intends to invoke 35 U.S.C. 112, sixth paragraph with the "means for" statement.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 21-24, 28-31 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (2001/0055459) in view of Ohno et al (5,738,576).

10. In reference to claims 21 and 28, Yamada discloses in combination an optical connector plug comprised of a plug housing (8, 27) for supporting a ferrule (9) fixed to an end of an optical fiber and a connecting member (not numbered in Figure 3; 27 in Figure 7) connected to an exterior surface of the plug housing, the optical connector plug having a first axis extending along the exterior surface thereof in a longitudinal direction of the connecting member, an end face polishing machine comprised of a polishing member (14) having a polishing surface for undergoing rotational movement (paragraph 32) in a first direction of rotation to polish an end face of the ferrule and an end face of the optical fiber during a polishing operation and a jig plate comprised of a jig plate body (1), a mounting part (the mounting part is made up of the edges of the jig plate body that interact with parts 17 to mount the jig plate to the polishing machine) connected to the jig plate body for mounting the jig plate on the end face polishing machine, a holding part (the holding part is the recess in the jig plate body wherein the holding member is located) formed in a surface of the jig plate body, and a holding member (4) for removably supporting the optical connector plug in the holding part so that the end face of the ferrule and the end face of the optical fiber confront the polishing surface of the polishing member when the jig plate is mounted on the end face polishing machine, the holding member having an engaging portion (2, 2a) for detachable engagement with the connecting member of the optical connector plug to removably support the optical connector plug so that during a polishing operation, the

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end face of the ferrule and the end face of the optical fiber contact the polishing surface of the polishing member at a preselected angle (figure 6) of inclination and while an axis extending in the direction of inclination of the end face of the ferrule and the end face of the optical fiber coincides with a second axis of the optical connector plug disposed generally orthogonal to the first axis. Yamada, however, fails to disclose that the ferrule rotates in a second direction of rotation opposite to the first direction of rotation. Ohno teaches that it is advantageous to provide a convex tip on optical fibers in order to minimize optical losses ascribable to the gap between the ends of fibers (col. 1, lines 19-27) and a method of producing a convex surface may include a rotary stage with an elastic sheet with an abrasive grain applied to the sheet and the act of rotating a ferrule containing an optical fiber having a conical end about its axis in the opposite direction of the rotation of the rotary stage (figs. 2A and 2B) while the end of the ferrule and fiber are pressed against the rotating sheet. This method produces a convex curve that is inclined with respect to a plane perpendicular to the axis of the ferrule and optical fiber (figs. 1, 2A, 2B, 5A and 5B of Ohno). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to provide the jig plate of Yamada with the ability to rotate a ferrule containing an optical fiber which is angled to correct the target inclining direction about its axis in the opposite direction of the rotation of the rotating polishing plate, while contacting the rotating polishing plate in order to create a smooth convex surface with the convex curve inclined with respect to a plane perpendicular to the axis of the ferrule and optical fiber in order to minimize the optical

losses ascribable to the gap between the ends of the optical fibers therefore making the fibers more efficient in transmission of data.

11. In reference to claim 22, Yamada further discloses that the second axis of the optical connector plug extends along an exterior surface of the optical connector plug different from the exterior surface thereof to which the connector member is connected.

12. In reference to claims 23 and 29, Yamada further discloses that the connecting member may comprise a latch (27 in figure 7) and that the holding member has a holding hole having the engaging portion for detachable engagement with the latch to removably support the optical connector plug.

13. In reference to claims 24 and 30, Yamada further discloses that the holding member is removable mounted in the holding part.

14. In reference to claims 35 and 37, Yamada further discloses mounting means (6) for mounting the holding member in the holding part of the jig plate so that during a polishing operation, the holding member supports the optical connector plug in the holding part so that a longitudinal axis of the ferrule fixed to the end of the optical fiber is disposed at an obtuse angle (figure 6) relative to the polishing surface of the polishing member.

15. In reference to claim 36 and 38, Yamada further discloses that the mounting means comprises a holding hole of the holding part for receiving the holding member so that a longitudinal axis of the holding member is disposed at the obtuse angle relative to the polishing surface of the polishing member during a polishing operation.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takahashi ('971, '475, '784, '846 and '445) all disclose apparatus' for polishing or grinding end faces of ferrules together with optical fibers.

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R. Muller whose telephone number is (571) 272-4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

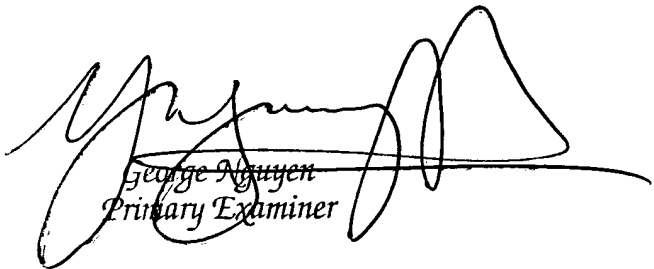
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail III can be reached on (571) 272-4485. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRM BRM
8/22/2005


George Nguyen
Primary Examiner